

1 NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

2 Washington, D. C.

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4
5 Interview of

6 JAMES BEGGS

7 NASA Administrator

8 for

9 Boards & Directors Magazine

10 no date
11 1981 or 1982
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20 (This transcript was prepared from a tape recording.)

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P R O C E E D I N G S

MR. BEGGS: (Start of tape) That is something that, unless we can fix it, unless we can make that better, we are going to progressively lose market position just as we have lost market position in the past 15, 20 years in a lot of areas.

So, the appropriate role of government (Inaudible) and the appropriate partnership should be on a basis of strong, working relationships between government and the industry and is something that the industry should learn it should promote.

I think the history of NASA is a good architect (Inaudible)... and the potential of commercialization in space that I think that by and by there will be a recognition of the potential.

If the McDonald-Johnson & Johnson experiment works (Inaudible) significant (Inaudible) if some of the other materials processes (Inaudible) develops as (Inaudible), it also will result, and I think as soon as venture capitalists and people who are interested in advanced work start to realize that, they will start to move in. They have not moved in as fast as we would have hoped, but I think those that have give us great promise and others will.

(NOTHING FURTHER ON SIDE 1.)

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1 (START OF SIDE 2 OF TAPE:)

2 ... public as your stockholders. Could you
3 please explain why this is so and enlarge on that?

4 MR. BEGGS: Stockholders are people who pay
5 their money on the anticipation that they will
6 participate in the profits of the enterprise, right?

7 : Right.

8 MR. BEGGS: In our case, (Inaudible) they
9 participate vicariously in the profits of the enterprise
10 in the sense that they have been a part of (Inaudible)
11 part of the program. And that is the reason that we
12 have decided a long time ago that we would keep the
13 program public from the point of view of from launch to
14 the landing.

15 : Because it is America's
16 space program?

17 MR. BEGGS: Well, so they can have a part of
18 it. So that they can be a part of it and enjoy it.
19 But more importantly, they are stockholders and
20 presumably the most important thing, or one of the most
21 important things is to enjoy economic activity and
22 economic fallout of the program, which in many areas we
23 have succeeded in stimulating economic activity,
24 generating new industries, which in turn creates
25 employment, creates wealth which contribute to the

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1 economic wellbeing of America.

2 : Do you think the public
3 realizes that they are the stockholders of NASA?

4 MR. BEGGS: Sure.

5 : That they are as in
6 many corporations, there are some dissident stockholders.
7 Do you feel that there is a national consensus behind
8 NASA?

9 MR. BEGGS: (Inaudible)

10 : Why do you think they
11 are dissident?

12 MR. BEGGS: (Inaudible) They all think we are
13 spending -- well, there are two classes of dissident
14 stockholders, one who believe we should spend the money,
15 as they say, here on Earth, which, of course, is a
16 misconception because all the money does get spent here
17 on Earth. But they think that the money ought to be
18 diverted to the imperative social issues.

19 The plain facts are that we only spend eight-
20 tenths of one percent of the federal budget, whereas the
21 imperative social issues are getting 52 percent of the
22 budget. And I would suggest that that ratio may have
23 gone too far.

24 The other group, represented by Bill Proxmire,
25 thinks we ought to spend the money more directly

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1 stimulating economic activity and it should be more
2 closely related to cost-benefit ratios. (Inaudible)
3 lots of economists (Inaudible) to run a research
4 program, and we don't agree with that because we don't
5 believe that you can assess accurately the benefit
6 from a research program when you initiate it. When you
7 initiate it, research pays off very big, but you never
8 know where it is going to pay off, or when.

9 We invest in true research, true long range
10 research, which generally speaking will pay off in 10
11 to 20 years, a long time, and is very difficult to
12 assess which pieces of it will pay off at what time
13 period. But the investment is no less important
14 because what it stimulates is economic activity for the
15 future.

16 And if you don't have it, if you don't do that
17 (Inaudible) when current industries mature, we don't
18 compete because we see a lot of mature industries in
19 the United States now.

20 : Talk about some of the
21 unique management challenges of NASA. What do you see
22 as some of the unique challenges in managing the
23 organization like NASA?

24 MR. BEGGS: Well, it is managing almost
25 totally what Harman Cohn loves to describe as knowledge,

1 as the knowledge workers, because they are highly
2 educated individuals who are concentrating on doing
3 work in creative fields which are not capable of being
4 measured in industrial terms, in terms of what the
5 normal organization is, and you cannot measure
6 productivity or productive activities in the same way
7 that you can in an industrial organization where you
8 have a product that you can see the impact on the
9 marketplace.

10 So, it is a challenge to ensure that those
11 people are properly motivated and are properly measured,
12 in turn, so that they do, indeed, concentrate on those
13 things that are important and not -- spend as little
14 time as you can on doing things which are really what
15 the industry likes to call hobby shop work, which may be
16 of interest to some individual but really don't contribute
17 to the overall advance in the sciences or the
18 technologies or the state of the art.

19 : Is part of that
20 challenge getting these engineers and scientists ---

21 MR. BEGGS: Where do you get these questions?

22 : I made them up.

23 MR. BEGGS: All right. (Inaudible)

24 : After reading this stuff.

25 Is part of that challenge getting these scientists and

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1 creative people to become managers where they ordinarily
2 might not?

3 MR. BEGGS: No. You don't want them to be
4 managers, most of them. That is one of the other
5 challenges, to keep the guys, keep the individuals, the
6 people who are the most creative doing technical work
7 and not managing. And you have to try to cull out the
8 few individuals who are more appropriately placed in
9 management, who have the capability of managing creative
10 people. But the majority of our people we would like to
11 see, in the main, in creative technical work throughout
12 their career.

13 : Well, then do you have
14 to look for a special type of manager, one who can deal
15 with the scientific and engineering and creativity?
16 Special, that is, from industry?

17 MR. BEGGS: No. I think you -- well, yes and
18 no. I think you are still looking for a manager who
19 can do the classical things that managers do, which is
20 planning, organization and control, motivation, and
21 day by day attention to the details of the business. We
22 are running a business in a real sense.

23 So, they have to be managers in the classical
24 sense.

25 : Do you think NASA could

1 be more effective ---

2 MR. BEGGS: Wait a minute. I thought I had --
3 I wrote an article like this one (Inaudible)

4 : Oh. Maybe Dorothy has
5 it.

6 MR. BEGGS: But anyway, I will see what I can
7 find.

8 : But do you think ---

9 MR. BEGGS: Basically, a manager has to do the
10 things that belong, that are key to making management
11 work, and they are what I have described, planning,
12 organizing, directing and motivating, control.

13 : Do you think NASA ---

14 MR. BEGGS: But, in order to be a good manager
15 of a knowledge organization, generally speaking they
16 should have had experience in that activity themselves.
17 They should understand what motivates (Inaudible)
18 effective, creative (Inaudible).

19 : And do you attribute
20 NASA's success to the fact that we have a good core of
21 that type of management?

22 MR. BEGGS: Yes. I attribute the success to
23 kind of a policy that was initiated very early and that
24 is having a good mix in NASA of both outside and inside
25 people, as well as a good mix of inside work and contractor

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1 work, which lends a degree of competition to what we do.

2 If it were entirely -- I think one of the major
3 reasons why NASA has been successful throughout the
4 last 25 years is that we do the majority of our work
5 outside the agency, so that we don't -- we have never
6 become ingrown. I think that tends to be a hallmark of
7 some of the agencies of the government (Inaudible) and
8 they tend to do little contract work and they have little
9 association without the outside world, other than to
10 professional contacts.

11 And as a consequence, they don't have the same
12 kind of competitive pressures.

13 The other thing that I think has happened with
14 the agency is that over a period of time we have brought
15 people in from the outside who have spent a short period
16 of time and then gone back out. They bring new ideas,
17 new thoughts, new management techniques to the agency
18 which is extraordinarily important in keeping the agency
19 young and vital.

20 You know, for the budget we spend, we have a
21 relatively small civil service population, 20,000,
22 21,000 for a \$6 billion organization. If this were an
23 industrial organization engaged in the same kind of
24 business that we are in, they would probably have four
25 or five times that many.

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1 But because we are the organization that we
2 are, we probably have the same -- that number employed,
3 but they are employed through outside contracts, and that
4 is very important.

5 I think the other aspects of the program, the
6 fact that we have always worked as the cutting edge,
7 means that you have a greater chance of attracting top
8 talent from the outside. It means that, in addition,
9 that you have a strong motivation for young people to
10 enter the agency at the entry level and who put in some
11 of the most productive years of their creative life in
12 working on our program, and that is important.

13 : Do you think NASA could
14 better be managed if it had a board of directors? Does
15 it need a board of directors? And if not, do you
16 envision one operating here anyway in a sort of
17 unofficial capacity?

18 MR. BEGGS: We have got a board of directors.
19 It is our committees in the Congress. The only trouble
20 is, in recent years the committees in the Congress have
21 tried to involve themselves too closely with our
22 program, instead of judging us by our results, which
23 is what they should do, as a big board does.

24 It is entirely appropriate for the board of
25 directors and the committees of Congress to get involved

1 in the budgetary side. A good board will do that, in
2 examining the budget and what have you.

3 But a good board does not try to get itself
4 involved in the day to day management of the enterprise
5 in trying to decide how to run the business in a
6 shifting environment. We are in a shifting environment,
7 not quite in the same sense as running a business in a
8 marketplace, but in the sense that technology changes
9 frequently and programs have to be adjusted accordingly.

10 : If you had your ---

11 MR. BEGGS: The Congress has exercised too much
12 oversight responsibility in controlling our reprogramming
13 activities between programs to too great a degree, and as
14 a consequence they are not acting as a big board. They
15 should be involved in the programming and in the
16 budgeting, and the initiation of the programs, just as
17 any good board does. They should involve themselves in
18 the selection of the key people, the executives, which
19 they tend to do.

20 But they should not get into the day to day
21 management of the agency, which they have tended to do
22 too much.

23 : Would you care to give
24 an example?

25 MR. BEGGS: Well, the reprogramming activities,

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1 where they have tightened the screw down each year a
2 little more to the point where if you want to program a
3 million dollars within a \$6 billion budget, we have to
4 go back to ---

5 : If you had ---

6 MR. BEGGS: Most industrial managers, as long
7 as they stay within their budget, have almost complete
8 flexibility. Even in their capital budget, most chairmen
9 have authority of a million dollars or more to
10 reprogram, even in smaller companies. But we are
11 constrained by the rules.

12 In addition to that, the committees tend to
13 exercise control as to numbers of people within any
14 particular function, and most boards wouldn't do that.

15 : You mean within the
16 agency they try to ---

17 MR. BEGGS: Right. They set caps on the number
18 of people we can have in the budgetary function, or caps
19 on the number of people we can have here or someplace
20 else. And they shouldn't do that.

21 : If you were a CEO and
22 NASA was a corporation, and if you had your druthers,
23 what would you do with this board of directors, the
24 Congress? What would you do with them?

25 MR. BEGGS: Well, I would ask them to do just

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1 what I expressed. I would ask them to concentrate on
2 the budget and on the area of initiating new programs,
3 which are, in essence, what a board does with industry,
4 exercises responsibility for examining very carefully
5 proposals to go into new businesses.

6 When we have a new program, that is the
7 analog of a business organization looking at a new area
8 of business, so they should look at that.

9 : If you were a ---

10 MR. BEGGS: I would ask them to set overall
11 budgets and overall direction, policy direction with
12 respect to where we were going, and then leave the day
13 to day management to the agency.

14 : What else would you do
15 differently if you were a CEO of NASA and it was a
16 corporation?

17 MR. BEGGS: Change the salary structure. They
18 almost -- they tried to do that and then they backed away
19 from it. Put more incentives in the system and raise
20 entry level salaries.

21 : You think the present
22 salary structure drives away good people?

23 MR. BEGGS: Yes. It definitely has the -- it
24 doesn't drive them away, it makes them very susceptible
25 to better offers from the outside, which means that your

1 better people may then leave.

2 Besides which, you can't tighten down to the
3 point of taking away most of the PERK's that go with
4 (Inaudible). senior job in industry. Most vice
5 presidents in business corporations fly first class, have
6 an expense account, are on an incentive bonus plan, and
7 many companies have a lot of other things (Inaudible),
8 other things like (Inaudible) in some cases help on
9 their housing when they move.

10 We don't do any of those things. I don't know
11 whether in the government environment you could ever do
12 things (Inaudible). The incentive bonus system which
13 the government is trying (Inaudible) liberalized or at
14 least go back to the original intent, which was to pay
15 bonuses to a large segment of the organization (Inaudible)
16 if they did a good job, instead of restricting it to a
17 limited number.

18 In addition to that, I think that the vice
19 presidential level in this agency should have a few
20 PERK's.

21 : By the vice presidential
22 level, you mean an associate administrator?

23 MR. BEGGS: Associate administrators, center
24 directors. They should be permitted to leave and to fly
25 first class. And I think the system that we have on

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1 permitting a little reciprocal entertainment should be
2 revised, provided with a little bit more money for that.

3 : Given all that you have
4 said about the lack of -- about the way NASA functions
5 as a government agency, would you think that NASA would
6 be better off and attract better people and keep them if
7 it were a quasi public-private agency?

8 MR. BEGGS: I don't think so. I think it ought
9 to be what it is. (Inaudible) I think there could be a
10 little less pure than (Inaudible).

11 Our whole so-called representation allowance
12 is \$25,000 a year. That \$25,000 a year is probably not
13 a -- probably wouldn't cover the -- well, this will get
14 me into trouble. I don't know whether I ought to say
15 it. But if that were off the record, it probably
16 wouldn't cover more than one vice president's
17 entertainment allowance (Inaudible) more than the CEO's
18 (Inaudible).

19 You see, that will be misinterpreted. The
20 point is that we are running a business in a real sense
21 because we are doing things, we are selling space on the
22 Shuttle, we are doing business with a broad sector of
23 the industry. We are doing business with almost half
24 the countries of the world which have much more liberal
25 policies than we.

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1 If you go to Europe, we are generally --
2 anyone who goes over there is generally entertained in
3 a first class restaurant. Because (Inaudible), we can't
4 (Inaudible).

5 I can. You see, that is why this will be
6 misinterpreted. We have the \$25,000 that will cover my
7 entertaining (Inaudible). I say entertaining, taking
8 them to dinner. And it will permit us to give them a
9 cocktail before dinner, but not much more than that.

10 : Does this lack of the
11 representational allowance or small one hinder NASA's
12 work? Do you think it could work better if we had
13 a ---

14 MR. BEGGS: No. Your question, your
15 developer would be better off doing something else, and
16 so in that respect we would. But other than that, I
17 don't think it hinders doing the work.

18 I think with respect to competing with the
19 French on area, and with the Japanese eventually, they
20 have a much easier system which permits them to do a
21 lot more of the kind of thing that you want to do when
22 you are courting customers.

23 : One final question ---

24 MR. BEGGS: You have got to be careful with
25 that area, because everybody up on the Hill thinks we

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1 get too much money anyway.

2 : Would you rather not
3 make that point?

4 MR. BEGGS: No. I think that the point ought
5 to be made, but make it very carefully.

6 : Okay. My final question
7 is: What can corporate boards learn from the way NASA
8 is managed?

9 MR. BEGGS: Well, I think that corporate boards
10 and corporate management in general could learn a lot
11 about the appropriate way to manage research and
12 development activities, particularly (Inaudible). I
13 think this agency knows to the degree probably no other
14 organization in the world how to run a high technology
15 program and to bring it through reasonably on budget and
16 close to schedule.

17 The management of high technology, I think, and
18 there are some industries around the states that do that
19 very well, but in general I think the management of
20 advanced technology is not very well understood in
21 industry or in our society.

22 I think the way in which NASA has worked with
23 a very important industry, namely aerospace, over the
24 long period of time, the appropriate government-industry
25 relationship is something that they should understand. I

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1 don't think that is very well understood in this country.
2 And they could learn a lot from the way NASA has
3 cooperated with the majors in the United States over a
4 long period of years in developing technology capacity
5 and have technology accrue to the industry and permitting
6 the industry to come in and work with it on a very close
7 working relationship.

8 : What is the major
9 misconception?

10 MR. BEGGS: Well, I think the major misconcep-
11 tion in a lot of businesses is that there is no role of
12 the government in this area, and I think that is
13 dangerous that you ought to leave it all to business.

14 The point being that, you know, in an era of
15 high interest rates, even in an era of low interest
16 rates, the probability that a business will do research
17 and technology that don't pay off for 10 or 20 years is
18 very, very slim, but they are still very important.

19 So, it is important to have a government role.
20 I think the ability to translate that technology into
21 useful product is something that we need to learn a lot
22 better.

23 : By we, you mean who?

24 MR. BEGGS: The United States. And we have
25 found in the last decade or two that the Japanese do it

1 better than we do...

2 (END OF TAPE.)

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